

What is claimed is:

1 1. A method for regulating the operating
2 frequency of a fiber optic gyroscope with a closed control
3 loop, in which the demodulated output signal of the FOG
4 detector, as actual signal, is applied on the one hand to
5 the input of an FOG main controller and on the other hand,
6 via a gating filter, to a VCO that determines the system
7 clock of the FOG, the output signal of the main controller,
8 as modulation signal, being fed to a digital phase
9 modulator formed in a multifunctional integrated optical
10 chip, and, for the purpose of determining and regulating the
11 exact operating frequency of the FOG, a periodic additional
12 modulation signal is superposed on the demodulated detector
13 output signal passing to the gating filter, characterized in
14 that the additional modulation signal, as analog signal, is
15 fed to separate phase correction electrodes formed in the
16 multifunctional integrated optical chip.

1 2. A multifunctional integrated optical chip for
2 a fiber optic gyroscope in which a phase modulator realized
3 by electrodes arranged parallel to a light guiding path is
4 implemented as at least one functional group, characterized
5 in that, in addition to the phase modulator, an electrode
6 pair arranged parallel to the light guiding path is present
7 for applying a periodic additional modulation signal to a
8 light beam on the light guiding path for the purpose of
9 regulating the operation frequency of the gyroscope.

1 3. The integrated optical chip as claimed in
2 Claim 2, characterized in that the additional electrode pair
3 is arranged between the phase modulator and a beam splitter.